

## Heros: Jim Lovell 'Grit and grace' saved the Apollo 13 crew

By Charles W. Petit

On April 13, 1970, Navy Capt. Jim Lovell was two days or about 200,000 miles out from Earth, with the moon beckoning. He had dreamed of space travel since high school. Now, as commander of Apollo 13, he was a day away from walking on another world. With him were Fred Haise, pilot of the main command module Odyssey, and Jack Swigert, set to go to the moon's surface with Lovell in the smaller Aquarius module. It would have been America's third lunar landing.



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With a loud bang, everything changed. The ship shuddered and rolled erratically. On three previous spaceflights, Lovell had never heard or felt anything like this. He shot a glance at Haise, thinking perhaps he'd bumped a valve. Haise stared back, eyes like saucers. He had bumped nothing. So began the longest life-or-death crisis in the history of spaceflight.

Lovell had already had his share of scares. One night in 1954, the novice Navy flier lost his way over the Pacific by following the wrong radio navigation beacon. He plugged in a self-made gizmo for extra illumination. It blew out his jet fighter's instrument lights. Pondering the impending calamity, he filled his rubberized flight suit with cold sweat. Then, by chance, he saw a pale streak ahead. Phosphorescence from his carrier's wake led him back.

There was no simple glowing trail to safety for Apollo 13. But Lovell doesn't remember being scared. "We just got real busy." The experience changed him forever. He cannot imagine being physically afraid, again, ever. "I roll with anything. My demise could have come then, so I savor every moment now."

At first, all the astronauts knew was that a cloud of debris and icy condensate, like snow, was spraying from their ship's side. For a moment they thought a meteor had struck. "Houston, we've had a problem," Lovell radioed. Oxygen supply readings plummeted. Electricity-making fuel cells began dying. (After the mission ended, NASA figured out that a tank carrying 320 pounds of oxygen in the attached but inaccessible service module had blown up, also causing a second tank to leak.)

The new goal was survival. In a pageant of inspired resourcefulness, Houston and the Apollo 13 crew invented new ways to operate the crippled ship. With Odyssey and its service module running out of oxygen and power, the men moved next door into the angular Aquarius with its topped-up batteries and full oxygen supply. But NASA contractors had designed the Aquarius to take two astronauts down to the moon's surface. NASA engineers knew it could work briefly as a lifeboat should the main craft give trouble, but not for the four days it would take Apollo 13 to get home.

Before the power died, Lovell frantically punched a keyboard to transfer navigation data into the lander's computer. With the main engine unusable, engineers in Houston worked out a way for him to use the lander's smaller rocket to boost the wounded spacecraft into a trajectory around the moon and back to Earth. But with the whole rest of Apollo still attached, Lovell found the lander's handling radically different from how it behaved on its own.

The glittering debris around Apollo 13 made navigation by stars impossible, so Lovell and his companions eyeballed the sun and the moon to aim their engine burns. With the lander's batteries too feeble to provide normal power for long, the crew turned off all but a few essential systems.

Conditions became miserable. It got so cold the food packets froze. No blankets or warm clothes were on board. The crew hardly slept. Under the stress of strict rationing of drinking water, Haise fell into chills and fever with a kidney infection (but never complained). Carbon dioxide from the trio's breath rose near lethal levels, leading ground controllers to devise and relay instructions for an ingenious device of duct tape, cardboard, and plastic bags to fit the command module's air-cleansing canisters to the lander's ducts.

Network TV and print media, which had played down Apollo after the first moon landing nine months earlier, fed on the space drama. Millions of Americans, distracted momentarily from Vietnam War news, cheered when the astronauts fired up the command module's scant battery power, ditched the lunar module, and parachuted their craft into the Pacific within sight of the waiting aircraft carrier.

It was a rough flight, to be sure, and everyone hailed the crew members upon their safe return. Lovell, like most astronauts, accepts but does not relish the "hero" label. "Look, the situation was forced on me, and I did my job. When people tell me I'm a hero, I don't say anything. A requirement of the program was to act the part. If people saw us as heroes, that was good. We weren't about to say, hey, flying to the moon is easy—just follow the checklist."

Well, a good hero should be modest. Though most missions proceeded with only minor hitches, there were some—like Apollo 13—that went thoroughly haywire. Fate severely tested its crew's abilities. It wasn't the program's first or worst confrontation with tragedy—Gus Grissom, Ed White, and Roger Chaffee burned to death in a fire on the pad in 1967. But those three had no chance. Lovell, Haise, and Swigert did, and they made good on it.

Lovell also made good on a vow he made on the deck of the recovery carrier the day he got back—to write a book about the mission. From it came the 1995 movie starring Tom Hanks. The same year Lovell received from President Clinton the Congressional Space Medal of Honor for showing the "grit and grace under pressure that is the province of true heroes."

Lovell retired from NASA and the Navy in 1973 and spent several years in business. Today, surrounded by space and Navy mementos, he works on his personal affairs in an upstairs office at Lovells of Lake Forest, an upscale restaurant he built north of Chicago not far from where he and his wife, Marilyn, live. A son, Jay, is chef. Former astronauts are regular guests for dinner.

He is content now. He had wanted desperately to walk on the moon. But his initial disappointment has morphed into pride. "For years, NASA didn't want to talk about it. Failures aren't what you use to get more appropriations." He has come to terms with the mission's outcome. "We wouldn't have been first on the moon anyway," Lovell says. "Apollo 13 has another, unique place in space history. It's actually more memorable this way."

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